# Before the Federal Communications Commission Washington, D.C. 20554

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DTV Consumer Education Initiative	,	ocket No. 07-148
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# **Comments of the**

**Federal Communications Commission's** 

**CONSUMER ADVISORY COMMITTEE** 

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## I. INTRODUCTION

Pursuant to the Notice of Proposed Rulemaking ("NPRM") adopted by the Commission on July 21, 2007 seeking comments on several proposals relating to consumer education about the digital television ("DTV") transition, the Federal Communications

Commission's Consumer Advisory Committee ("CAC") hereby submits these comments.

On June 8, 2007, the Commission announced the re-chartering and appointment of members of its Consumer Advisory Committee, a federal advisory committee that addresses consumer issues within the jurisdiction of the Commission. The CAC is organized under, and operates in accordance with, the provisions of the Federal Advisory Committee Act. The comments below reflect the recommendations of a majority of CAC members. Many CAC member organizations may file separate comments in this proceeding which may not be in complete agreement with this filing. One CAC member, for example, has already sent the Commission and the CAC a letter outlining the organization's voluntary DTV transition education efforts.

The principal current focus of the CAC is the digital television transition as the Commission continues its efforts to assist consumers in understanding and preparing for the transition which, by law, must be completed by February 17, 2009. Through its work,

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<sup>&</sup>lt;sup>1</sup> See DA 07-2426 http://fjallfoss.fcc.gov/edocs\_public/attachmatch/DA-07-2426A1.doc

<sup>&</sup>lt;sup>2</sup> 5 U.S.C. App. 2 (1988)

<sup>&</sup>lt;sup>3</sup> These comments were adopted by the CAC on Thursday September 27, 2007 with 18 members voting in favor, none opposed. The following CAC members abstained when these comments were approved. They are:AARP, CableVision, the Consumer Electronic Association, the DTV Coalition, EchoStar, the National Association of Broadcasters and Verizon. Some of these CAC members have filed separate comments.

<sup>&</sup>lt;sup>4</sup> See letter from Jack Sander, National Association of Broadcasters, to FCC Chairman Kevin Martin *In the Matter of DTV Consumer Education Initiative*. August 21, 2007.

<sup>(</sup>http://www.nab.org/xert/corpcomm/pressrel/releases/082107 Sander FCC DTV.pdf)

the CAC provides valuable insights that should further the Commission's goal of ensuring that all consumers, especially the elderly, low-income, non-English speaking consumers and people with disabilities, are aware of the transition and understand what specific steps, if any, they must take to continue to be able to watch television after the DTV transition is complete. The CAC is charged with providing the Commission with specific recommendations on how the Commission can best ensure a smooth transition. CAC concerns include consumer protection, education, inclusion and involvement; access by people with disabilities; and the impact of new and emerging technologies on consumers.

In this NPRM, the Commission seeks comment on whether there are additional steps which the Commission can and should take to make consumers aware of the hard deadline of February 17, 2009 for the end of full-power analog broadcasting. Specifically, the Commission is responding to a letter from Congressional leaders<sup>5</sup> asking if the Commission should adopt rules requiring A) television broadcasters to air public service announcements, B) broadcast licensees to report their consumer education efforts, C) multichannel video programming distributors (MVPDs) to insert periodic notices in customer bills that inform consumers about the digital television transition and future viewing options, D) manufacturers to include information about the transition with television receivers and related devices, E) retailers who participate in the converter box coupon program to detail their employee training and consumer information plans, F)

<sup>&</sup>lt;sup>5</sup> Letter from the Honorable John D. Dingell, Chairman of the Committee on Energy and Commerce, and the Honorable Edward J. Markey, Chairman of the Subcommittee on Telecommunications and the Internet, U.S. House of Representatives, to the Honorable Kevin J. Martin, Chairman, the Honorable Michael J. Copps, Commissioner, the Honorable Jonathan S. Adelstein, Commissioner, the Honorable Deborah Taylor Tate, Commissioner, and the Honorable Robert M. McDowell, Commissioner, Federal Communications Commission, received May 24, 2007. ("Letter")

partners identified on the Commission's digital television Web site to report their specific consumer outreach efforts, and G) additional proposals mentioned in the Letter including broadcaster public file requirements or other public announcements, notice requirements by telecommunications carriers that receive funds under the Low Income Federal universal service program, or reporting requirements by 700 MHz auction winners.

For each proposal, the FCC asks for comments concerning: 1) the Commission's authority to implement the proposal; 2) the likely effectiveness of the proposal (i.e., whether it would appreciably increase public awareness and understanding of the DTV transition); 3) the best methods of implementation; 4) the policy implications; and 5) constitutional concerns.

In reports to Congress,<sup>6</sup> the Commission has outlined a three-prong effort to advance the DTV transition and promote consumer awareness: 1) get the right rules in place to facilitate a smooth transition, 2) enforce those rules to protect consumers, and 3) promote awareness of the transition through consumer education and outreach efforts.

In the comments that follow, the CAC recommends that these three prongs not function as silos, but as interrelated efforts. Consumers must be made aware of more than the February 2009 deadline and the options available to them to continue television viewing:

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<sup>&</sup>lt;sup>6</sup> See letter from Chairman Kevin Martin to Honorable John Dingell, Chairman of the House Committee on Energy and Commerce, and the Honorable Edward Markey, Chairman of the House Subcommittee on Telecommunications and the Internet June 18, 2007 ("Martin Response Letter") (http://energycommerce.house.gov/Press\_110/FCC%20response%20DTV%20ed%20plan%2006%2020%2007.pdf) and written statement of Catherine Seidel, Chief of the Commission's Consumer and Governmental Affairs Bureau before the Senate Committee on Commerce, Science & Technology July 26, 2007 ("Seidel Testimony")

<sup>(</sup>http://commerce.senate.gov/public/files/WrittenStatementofCathySeidel7262007Hearing.pdf).

consumers must also be aware that the "right rules" are in place so that they will not be harmed by the DTV transition. Moreover, outreach and educational efforts must be interactive; consumers know best how television serves their needs and the Commission should be listening to consumers now to ensure that the "right rules" are in place to ensure America's television broadcasting system is at least as vibrant as it is before the transition, hopefully, more so. And, as with all regulation, the "right rules" are meaningless if not properly enforced. The Commission must remain vigilant in enforcing rules so that consumers are aware of their rights and protected from unscrupulous vendors, access by people with disabilities is ensured, and the transition has a positive impact on consumers.

#### II. THE CHALLENGE BEFORE THE NATION IS DAUNTING

Never in the history of American broadcasting have we faced such a monumental task. Television has never played a more important role in our lives. It is our primary source of news and entertainment<sup>7</sup> and emergency alerts.<sup>8</sup> But digital television signals are not compatible with analog TV sets in most American homes. These sets will go dark on February 18, 2009. In order for the DTV transition to be successful, consumers must be well-informed and primed to adapt successfully to the new technology. This cannot occur unless there is a comprehensive, coordinated and robust national consumer outreach effort.

# A. Most American Have Not Made The Transition To Digital TV Technology

The vast majority of US consumers have not yet made the transition to digital TV technology. By January 1, 2008, Nielsen estimates there will be 112.8 million TV households in the US.<sup>9</sup> By the end of 2007, perhaps just over one-third of these households may have a digital television.<sup>10</sup> Moreover, there are concerns that even

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<sup>&</sup>lt;sup>7</sup> Horrigan, J., Garret, K., & Resnick, P. (2004). The Internet and Democratic Debate. Pew Internet and American Life Project and the University of Michigan School of Information; Cooper, M. (n.d.). Media Ownership and Democracy in the Digital Information Age. Center for Internet & Society, 146. Stanford Law School; Carter, S., Fico, F., & McCabe, J. (2002). Partisan and Structural Balance in Local Television Election Coverage. Journalism and Mass Communications Quarterly, 79. p.42; Norris, P. (2002). Revolution, What Revolution? The Internet and U.S. Elections, 1992-2000.

<sup>&</sup>lt;sup>8</sup> See, for example, Second Report and Order in the Matter of Review of the Emergency Alert System (EB Docket No. 04-296) at 17. Adopted May 31, 2007.

<sup>&</sup>lt;sup>9</sup> "Nielsen Ups US TV Homes by 1.3% for 2007-08." TVnewsday. August 23, 2007. (http://www.tvnewsday.com/articles/2007/08/23/daily.9/)

<sup>&</sup>lt;sup>10</sup> Arnold, Thomas K. "DEG: 52 mil HDTV homes in U.S. by '08." The Hollywood Reporter. July 18, 2007. (see

http://www.hollywoodreporter.com/hr/content\_display/television/news/e3i46597294f152ad2d311c94d12d4 8670b) On July 18, 2007, the Consumer Electronics Association reported that more than 30 million U.S. households have at least one high definition, digital television ("HDTV"). An estimated 4.5 million HDTVs were sold in the first half of 2007, 50% more than in the first six months of 2006. CEA projects that 16

today's cable TV subscribers are at some risk of losing broadcast TV service on one or all of their televisions at the end of the DTV transition. 11

Bruce Leichtman, president and principal analyst for Leichtman Research Group, Inc., said "With the digital transition now less than two years away, much work clearly still needs to be done to prevent millions of TV sets from going dark in February 2009." [emphasis added]

#### В. **People With Disabilities Face Extra Hurdles**

Even for those consumers who have made the switch to digital TV technology, the transition still may leave them in the dark. In June 2007, the Commission issued a Consumer Advisory<sup>12</sup> noting its concerns that consumers may experience difficulty in receiving and/or viewing closed captioning on some digital television programming, including HDTV, provided by a programming distributor such as a cable company or a satellite television provider. In fact, numerous problems already have been documented, including overlapping captions (two lines of captions displayed over each other), captions appearing in the middle of the television screen (blocking faces and other important

million HDTVs will be sold by the end of this year, bringing the U.S. household total to more than 52 million. That could bring the household penetration rate to 36%, with about 20% of homes having more than one HDTV. See additional data in Appendix A.

<sup>&</sup>lt;sup>11</sup> In May 2007, Leichtman Research Group, Inc. released findings that 23% of all TV sets in consumers' homes do not receive cable or Direct Broadcast Satellite (DBS) programming. This represents over 70 million TV sets in US households that only receive over-the-air broadcast television. Half of all broadcastonly TV sets are in 15% of primary households nationwide that do not subscribe to cable, DBS, or any other type of multi-channel video service. The other half are in households that subscribe to cable or DBS. Nine percent of TV sets in cable households are broadcast-only, and 19% of TV sets in DBS households are broadcast-only. Other related key Leichtman Research findings include: 1) 70% of all TV sets in cable households are not connected to a set-top box and 2) 42% of households that subscribe to cable TV do not have any cable set-top boxes.

<sup>&</sup>lt;sup>12</sup> "Closed Captioning for Digital television (DTV)," Federal Communications Commission. June 6, 2007. (See http://fjallfoss.fcc.gov/edocs\_public/attachmatch/DOC-273678A1.doc)

information on the screen), garbled captions, captions running off the edge of the picture, captions exceedingly small, and captions that inadvertently switch to text mode which causes 95% of the screen image to be obscured. These failures have their roots in any of a dozen possible technical causes and there is no way for consumers to be able to track down these problems. Technical failures associated with accessing and reading captions may stem from problems with local broadcast station signals, local cable provider transmissions, broadcast and cable network transmissions, maladjustment of consumer equipment that is purchased or leased from cable or satellite companies, satellite transmission signals, and/or improper encoding and transmission by caption providers. Finally, new interfaces on digital televisions have made accessing and activating captions difficult, and sometimes impossible for consumers, with consumers finding themselves in the predicament of having to wade through several menu layers in order to access closed captioning controls. This has become particularly frustrating for consumers attempting to use digital televisions in hotels or hospitals, and at homes of family and friends where they are not accustomed to the television set-up. Similarly, problems accessing video descriptions have also been experienced. For example, it is not clear that set top boxes or other digital video equipment are capable of receiving, displaying and passing through video description because there has been insufficient material available for testing.

## C. At-Risk Consumers Are Also Hardest To Reach

The consumers most at risk of losing TV service after the transition are the most vulnerable in our communities and the hardest to reach. In 2005, the Government Accountability Office (GAO) found that 21 million homes — nearly one in five of all

television-equipped households — rely on free, over-the-air broadcasts. <sup>13</sup> Of these households, almost half have annual incomes of less than \$30,000, and two-thirds are headed by either an individual over age 50<sup>14</sup> or a native Spanish speaker.

# D. Americans Remain Unaware Of The Transition To Digital Television

Most Americans remain unaware of the DTV transition. On January 31, 2007, APTS released survey results finding that the majority of U.S. households that receive their television signals over the air are still unaware of the digital TV transition even though an estimated 22 million over-the-air homes need to make some kind of digital decision by February 17, 2009. The bulk of the survey participants—61 percent—had no idea that the DTV transition was taking place. Ten percent said they had limited awareness, while 25 percent said they were somewhat aware or very aware. While some respondents were aware of the digital transition, 53 percent had no idea when analog transmissions were scheduled to be turned off. Moreover, roughly 45 percent of respondents to APTS'

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however, that the 22 million estimate does not include Puerto Rico and other U.S. territories.

<sup>&</sup>lt;sup>13</sup> The Government Accountability Office (GAO) found that 19% or 20.8 million households rely exclusively on free over-the-air television. Statement of Mark L. Goldstein, United States Government Accountability Office, Testimony Before the Subcommittee on Telecommunications and the Internet, Committee on Energy and Commerce, House of Representatives, at 7 (Feb. 17, 2005)

<sup>&</sup>lt;sup>14</sup> Additionally, see "APTS Study Shows Older Americans Less Prepared for the Digital TV Transition." Association of Public Television Stations, July 2007. Many older Americans are at risk of being left behind in the transition. On July 24, 2007, the Association of Public Television Stations (APTS) released survey results finding that older Americans are more likely to rely on over-the-air television service and are thus less prepared for the switch-off of analog signals in February 2009. According to the APTS findings, 24 percent of households with people 65 and older receive their TV programming over-the-air, while only 19 percent of younger households depend on over-the-air signals. The study also found that only 17% of those older Americans relying solely on over-the-air broadcasts own a digital TV, which means the rest will need to buy a digital-to-analog converter box or subscribe to cable or satellite service to continue to enjoy television programming. The study, which APTS says is the first time it has studied the impact of the digital transition on a specific population segment, also found that only 41% of Americans 65 and older had purchased a new TV set in the past three years, compared to 55 percent of Americans younger than 65. According to APTS, that suggests that older Americans may not be as exposed to "DTV transition messaging from electronics retailers" as younger Americans, since they are spending less time in retail outlets shopping for new TV sets. (http://www.apts.org/news/olderamericansotastudy.cfm) 15 "APTS Survey Finds Majority of Americans Remain Unaware of DTV Transition." Association of Public Television Stations. January 31, 2007. (see http://www.apts.org/news/DTVSURVEY.cfm). Note,

survey said they will either "do nothing" or "don't know" what option they will take to obtain digital signals. Nineteen percent will purchase a converter box, 17 percent are likely to sign up for cable TV service, and 9 percent will sign up for satellite TV. Another 9 percent indicated they would buy a digital television set so that they can continue to receive over-the-air broadcasts.

Many American households must be motivated to act so that they do not lose TV service after the transition. In June 2007, APTS released additional findings that, if left to their own devices, the 22 million American households that rely upon free, over-the-air television will move slowly to adopt digital TV sets or subscribe to cable or satellite services:

- Only 7% of over-the-air households own a digital television set, compared to 23% who subscribe to cable or satellite. Therefore, few of these households are now equipped to obtain digital TV programming on an over-the-air basis and will be slow in making the change to television sets capable of receiving digital signals
- Over-the-air households have resisted subscription campaigns by cable and satellite companies. The population of over-the-air households has remained virtually unchanged since 2004 at 22.6 million, compared with 22.5 million in the first quarter of 2007.
- In the past three years, over-the-air households purchased new TV sets at about a 12 percent to 13 percent rate each year. In comparison, cable and satellite homes

bought new TV sets at an 18 percent rate per year. <sup>16</sup> Therefore, retail point-of-sale efforts to educate these households about the February 2009 digital transition are likely to have limited impact, given that over-the-air viewers lag in their purchases of TV sets in general, and buying digital sets in particular.

APTS President and CEO John Lawson said, "We need a Y2K-level effort to ensure that people are aware that their older TV sets will go dark in 21 months if they don't acquire a digital converter, buy a new set or incur the monthly cost of a cable or satellite bill. They also need to know that digital over-the-air television will continue to be free, will offer them many more channels and will give them a better picture even on an older set—if they get a converter box." [emphasis added]

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<sup>&</sup>lt;sup>16</sup> For example, the number of cable/satellite households that owned a digital television grew from 4.49 percent in the first quarter of 2005 to 23.45 percent in the first quarter of 2007. However, the percentage of over-the-air households that owned a digital television only grew from 1.96 percent to 7.12 percent over that same period.

# III. THE COMMISSION MUST ADOPT THE LEADERSHIP POSITION IN THE DTV EDUCATIONAL CAMPAIGN

The success of the DTV transition is dependent upon widespread consumer understanding of the benefits and mechanics of the transition. The Congressional decision to establish a hard deadline of February 17, 2009 for the end of full-power analog broadcasting has made consumer awareness even more critical. The Commission, as recognized in the NPRM, should take whatever steps it can to promote a comprehensive, coordinated, effective, national consumer education campaign that includes both information about the transition taking place and steps to ensure that people with disabilities will not lose access once the transition occurs.

Recognizing that the Commission mandated the transition to DTV broadcasting, it is the Commission's responsibility to take the lead in ensuring that consumers across the country are aware of the transition and, in the case of people with disabilities, do not lose the captioning access to which they have become accustomed after it occurs. In their letter, Chairmen Dingell and Markey noted that the Commission is the lead agency for the DTV transition and consumer education, and as such, has important responsibilities.<sup>17</sup> The Commission has been considering the matter of advanced television systems and their impact upon the existing television broadcast service since 1987<sup>18</sup> and for 20 years has been considering and adopting rules changes to make the DTV transition possible.<sup>19</sup>

Letter at page 2.MM Docket No. 87-268

<sup>&</sup>lt;sup>19</sup> This includes various sets of regulations to ensure that users of closed captions continue to have access to television programming after the digital transition takes place (will provide cites).

Only since last year has the NTIA been given a formal role in the transition.<sup>20</sup> Moreover, the NTIA does not have the authority needed to adopt enforceable rules as part of a coordinated, national DTV consumer education campaign.

CAC recommends that the Commission use as a model its efforts leading up to January 1, 2000 when, it was feared, many computers would malfunction ("Y2K"). The Commission should immediately appoint one or more commissioners to lead the DTV education effort in coordination with the Consumer and Governmental Affairs Bureau. The commissioners and staff should make as many public appearances, including media appearances such as daytime talk shows, as practical to discuss the DTV transition.

The Commission's plan should: 1) identify the households most likely to be at risk of losing TV service; 2) concentrate and leverage its limited resources on reaching these households; 3) work with partners on crafting and disseminating the right message to motivate these households to take necessary action to ensure continued television service; and 4) ensure that consumers are not harmed by the transition.

The Commission should collect data immediately that reveals the demographics of these at-risk groups. This data collection should be ongoing so the FCC and NTIA know who is being reached and who's already taken steps to make the transition. With that data, the Commission can then ascertain the special communication needs of these groups.

In his letter to Chairmen Dingell and Markey, Chairman Martin indicated that the

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Deficit Reduction Act of 2005, Public Law 109-171, Sec 3005©(2)(A), February 8, 2006.

Commission will "consider surveying consumers about their awareness of and the steps they must take to prepare for the transition" if the Commission's fiscal year 2008 budget request is approved by Congress. The CAC recommends that the Commission commit to ongoing data collection and to immediately reach out to industry players and others to see if the data already exists and can be shared. If not, the Commission should request the Census Bureau of the Department of Commerce to collect this data. The Commission should be an active participant in writing the Bureau's questions.

The CAC recommends that the Commission's education plan include the following components at a minimum:

#### A. THE DTV EDUCATION CAMPAIGN MUST BE TELEVISED

The DTV education campaign must reach households that currently rely on the over-the-air signals of full-power television stations. This is the group most at-risk of losing television service in February 2009. In addition, the Commission should act quickly to determine how analog cable subscribers who do not rent or own set-top boxes will be impacted by the DTV transition. Are they also at risk of losing their access to broadcast TV channels after the transition? The CAC asks that the Commission coordinate a finding that includes broadcasters, cable operators, consumer electronics manufacturers and retailers for a definitive answer on this question.

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<sup>&</sup>lt;sup>21</sup> Although all Americans need to get the message about the transition, given the limited resources for outreach, the message needs to be targeted at the populations most at risk of losing TV.

Obviously, the one thing all at-risk groups will have in common is their current use of television. To reach these groups, the DTV education campaign must be primarily conducted through TV. The Commission is proposing requiring television licensees to conduct on-air consumer education efforts through public service announcements ("PSAs"). The CAC endorses this proposal.

The need for the requirement of PSAs goes to the competing business interests of broadcasters. Granted, television stations need viewers to make the transition to DTV so that they can retain the audiences they sell to advertisers. This is a great motivator for broadcasters to reach out to every household to ensure all viewers make the transition. Many stations are likely to air PSAs to make sure consumers are aware of the transition. However, during much of the time when this message is to be delivered – 2008 – the nation will be in the midst of federal elections including a presidential election.

Television ad inventory will be at a premium. <sup>22</sup> Some broadcasters may not voluntarily make enough free PSA time available to reach the desired audience when candidates and other advertisers are trying to buy that time. Moreover, even where PSAs are shown voluntarily, there is a good chance they will not be shown with captions. <sup>23</sup> Additionally, some of the consumers most at risk of losing television service may not be a desirable demographic for advertisers.

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<sup>&</sup>lt;sup>22</sup> See, for example, Pelofsky, Jeremy and Megan Davies. "TV, radio look for record ad money in election." Reuters. August 24, 2007

<sup>(</sup>http://today.reuters.com/news/articlenews.aspx?type=industryNews&storyID=2007-08-24T113414Z\_01\_N24285067\_RTRIDST\_0\_INDUSTRY-USA-POLITICS-ADVERTISING-DC.XML&pageNumber=0&imageid=&cap=&sz=13&WTModLoc=NewsArt-C1-ArticlePage3)

<sup>&</sup>lt;sup>23</sup> PSAs that are not federally funded and are under ten minutes are not subject to the FCC's closed captioning obligations.

The CAC recommends that the Commission require each broadcast television licensee and encourage each radio licensee to air PSAs about the transition, consumers' future viewing options, and the NTIA digital-to-analog converter box discount program. The Commission should then require quarterly, electronic reporting from each station so the on-air efforts can be monitored. The Commission should require that stations certify that they are complying with the PSA requirement and inform stations that the failure to comply with the PSA requirement and/or certification may result in the maximum civil penalties permitted by law.

Moreover, broadcasters should be encouraged to air programming – either within local newscasts or separate full-length programs – that describes the transition, the benefits, consumer options, and demonstrate converter boxes.

The CAC recommends that the Commission establish minimum PSA requirements. The CAC does not make a recommendation about how many PSAs each licensee should be required to air. However, as a reference point, CAC notes that in 1998, when contemplating minimum public interest for all digital TV broadcasters, a broadcaster and member of the Presidential Advisory Committee on the Public Interest Obligations of Digital Television recommended, in the Advisory Committee's final report, that, at a minimum, television broadcasters be required to air 110 to 150 PSAs per week distributed throughout the broadcast day.<sup>24</sup>

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<sup>&</sup>lt;sup>24</sup> Public Interest Obligations of Digital Television. "Charting the Digital Future." 1998. James F. Goodmon Supporting Minimum Standards for Digital Television Broadcasters including the report of the Working Group on Minimum Public Interest Standards with attachment. This number reflected the full range of PSAs to be required and did not relate to PSAs specifically about the DTV transition.

CAC recommends that the Commission tie the PSA requirement to programming ratings. DTV-related PSAs should be run during a broadcasters' highest-rated shows and the shows with the highest ratings for at-risk communities including households with annual incomes of less than \$30,000 and are headed by either an individual over age 50 or native Spanish speakers.

PSAs should not confuse consumers. Industry groups are devoting substantial resources to crafting the messages for DTV PSAs. The FCC should be part of this process and ensure that the messages accurately convey that digital over-the-air television will continue to be free, will offer consumers many more channels and will give them a better picture even on an older set—if they get a converter box. PSAs should also convey consumer options – including the least expensive path to receiving DTV signals. PSAs should be shown to focus groups to ensure they make sense to the people who must invest in new digital television technology.

PSAs must be accessible for many different groups. As appropriate, PSAs should be in Spanish and Asian languages. The FCC should mandate that these PSAs be captioned, preferably with open captions, whether for broadcast, cable, satellite or on the Internet. Information presented visually in text should be conveyed audibly. The Commission should encourage and consider producing educational videos in American Sign Language that are accessible on the Internet. They should also include toll free numbers in appropriate languages to call for more information and the numbers should be displayed

both visually and audibly. Call center staff responding to calls must be trained to honor their legal obligation to receive and respond to phone calls that come into the center via specialized equipment and telecommunications relay services (TRS) from persons with hearing and speech disabilities. Voice menu systems, which are difficult for people with hearing loss to navigate, should be avoided.

The Commission has the authority to require these PSAs. Congress enacted the Communications Act of 1934 for the purpose, in part, of "regulating interstate and foreign commerce in communication by wire and radio so as to make available, so far as possible, to all the people of the United States ... a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges, for the purpose of the national defense, [and] for the purpose of promoting safety of life and property through the use of wire and radio communication..." Under the Act the Commission "from time to time, as public convenience, interest, or necessity requires shall" "make such regulations not inconsistent with law as it may deem necessary to prevent interference between stations and to carry out the provisions of [the] Act" and "(m)ake such rules and regulations and prescribe such restrictions and conditions, not inconsistent with law, as may be necessary to carry out the provisions of this Act." The Commission already makes similar requirements of broadcasters.

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<sup>&</sup>lt;sup>25</sup> 47 USC 151

<sup>&</sup>lt;sup>26</sup> 47 USC 303(f)

<sup>&</sup>lt;sup>27</sup> 47 USC 303(r)

<sup>&</sup>lt;sup>28</sup> See, for example, the Station Identification requirement (47 CFR Section 73.1201). Stations must make identification announcements when they sign on and off for the day. They must also make the announcements hourly, as close to the hour as possible, at a natural programming break. TV stations may make these announcements on- screen or by voice only. Official station identification includes the station's call letters followed by the community or communities specified in its license as the station's location. Between the call letters and its community, the station may insert the name of the licensee, the station's

The extraordinary circumstances of the DTV transition demand this measure by the Commission. Moreover, the requirement will come with a sunset. Although PSAs will need to be run frequently through 2008 and early 2009, the need for the PSAs should end by March 31, 2009 at the latest.

# В. ELECTRONICLLY FILED REPORTS WILL HELP TRACK DELIVERY OF THE DTV EDUCATION MESSAGE AND BROADCASTERS' PUBLIC **SERVICE**

As noted above, the Commission should require television broadcasters to file quarterly, electronic reports on their consumer education efforts, including the time, frequency, and content of public service announcements aired. The Commission should make these reports available via a centralized, searchable database on FCC website.

For some time now, the Commission has been working both on its own and in cooperation with industry, other government agencies, and consumer groups to advance the transition and promote consumer awareness. Obviously, these various efforts and others will continue through the early months of 2009. To best coordinate these efforts

channel number, and/or its frequency. Also see station renewal announcements (47 CFR Section 73.3580). The regulations on the announcements that need to be made when a licensee files a renewal application are pretty specific - and include prefiling and post filing announcements and may vary depending on station class. Announcements must be made over the TV; stations primarily broadcasting in a foreign language should broadcast the announcements in that language. In presenting the announcements, TV stations must use visuals with the licensee's and the FCC's addresses when the information is being orally presented by the announcer. Licensee must certify they have complied with the rule. For pre-filing renewal announcements of TV stations at least two of the required announcements must be broadcast at certain times of day.

and provide easy access to information for new efforts, the Commission should act as an information hub for the DTV education campaign. Part of this role should be to provide, for all these working parts, information about where, when and how the message of the DTV transition is being delivered to communities throughout the country. The best way to do this is through disclosure of television broadcasters' efforts in a centralized database. By making the reporting a requirement and enforcing the rule, the Commission would ensure that all stations contributed to the database.

The Commission should require these filings beginning January 2, 2008, and continue through May 1, 2009. The data, in turn, should be analyzed and used in frequent reports to Congress on the progress of the DTV education plan.

# C. MVPDs HAVE A ROLE IN THE DTV EDUCATION CAMPAIGN AND THEIR CONSUMERS MUST NOT BE HARMED BY THE DTV TRANSITION

The Commission seeks comments on whether multichannel video programming distributors (MVPDs) should be required to include in customer bills information about the digital television transition and consumers' future viewing options. Such inserts would be an optimal way to reach consumers that value television service. And, for those consumers, the inserts would augment information likely first gained through broadcasted PSAs.

CAC recommends that the Commission require MVPDs to educate their customers about the effect of the DTV transition on their TV service. MVPDs should consider a range of options to fulfill this responsibility, including things such as bill inserts, emails, PSAs, special information channel, statement messages, individual mailings, website messages, etc. For printed material, when requested to do so, MVPDs should make DTV transition information available in alternative formats to individuals who are blind or low vision. The Commission should also require quarterly reporting from each MVPD so their efforts can be monitored

Both the Commission and MVPDs must keep in mind that there could be some consumer confusion even with the most carefully crafted PSA campaign. MVPD consumers must receive reliable information about how the transition will affect them. MVPDs must be a reliable source of that information and not exploit the opportunity to sell consumers equipment or services they may not need. MVPD subscribers should be made aware if they will be required to rent a set-top box or buy a digital-to-analog converter box to continue viewing broadcast TV channels after the transition. If the latter, consumers should be made aware of how the converter box will work with their MVPD hook-up. If MVPDs include inserts about the transition and future viewing options with bills, consumer protections should be in place to ensure that these consumers know their full range of options, including the least expensive ones. Toll free numbers to call centers should also be noted on the bill inserts and notices.

CAC recommends that these call centers should be staffed with multilingual operators appropriate to the communities served by the MVPD. Toll free numbers to call centers should be set up for the explicit purpose of responding to consumer calls on this matter, and the numbers of those centers should be noted on the bill inserts and notices. Again, such call centers should be familiar with and prepared to receive and respond to calls made via specialized equipment used by people with hearing and speech disabilities and through TRS.

# D. ELECTRONICS MANUFACTURERS HAVE A ROLE IN THE DTV EDUCATION CAMPAIGN AND ELECTRONICS CONSUMERS MUST NOT BE HARMED BY DTV TRANSITION BY MANUFACTURER INFORMATION

The Commission seeks comments on whether consumer electronics manufacturers should be required to provide information about the digital television transition to consumers. Information on the transition should accompany other printed information normally provided the consumer when a television set is purchases. Ideally, such information should be standardized with input from the Commission. Toll free numbers to call centers should be provided on this information, and the call centers prepared to receive and respond to calls made via specialized equipment used by people with hearing and speech disabilities and through TRS.

Similar to the concerns raised in section C above, the Commission should adopt and enforce rules that ensure consumers get the correct information concerning their future viewing options, the digital-to-analog converter box coupon program and DTV technology compatibility with existing technology including VCRs, DVRs, and DVDs. Consumers should always be made aware of their least expensive migration paths to DTV.

# E. ELECTRONICS RETAILERS HAVE A ROLE IN THE DTV EDUCATION CAMPAIGN AND ELECTRONICS CONSUMERS MUST NOT BE HARMED BY DTV TRANSITION BY RETAIL INFORMATION

The Commission seeks comments on whether the NTIA and Commission should require retailers who participate in the converter box coupon program to detail their employee training and consumer information plans. Moreover, the Commission asks if it should have Commission staff conduct spot inspections.

Ideally, the FCC should help create standardized messages that would be used in such trainings and consumer information plans. Point of sale information should be provided in the retail outlets in the main languages spoken in the communities served by these retailers, as well as in alternative formats for individuals who are blind or low vision. Toll free numbers to a call center where the consumer could obtain more information should be provided. The call center should be staffed by representatives who speak the

languages used in the point of sale information. Such call center staff must be trained to accept, receive, and respond to phone calls that come into the center through specialized equipment or via the nation's telecommunications relay service system from persons with hearing disabilities and persons with speech disabilities who use relay services. If possible, such point of sale information should be provided by all electronics retailers. Ideally, information on the DTV transition should also be included in newspaper ads, etc. placed by these retailers.

Consumer Electronics Retailer Training and Education should include information on the ability of individual converter boxes to correctly pass through captions and video description, and on-site demonstration of any setup steps the converter box requires to display captioning and video description. Consumers should be able to view captions and hear video description on television models at the point of sale and test captioning and video description features.

The training should also include an easy return policy, without penalties, for DTV converter boxes and other television receiving and display electronic equipment that do not work correctly and/or do not display captioning or video description.

Commission enforcement should include visits to retailers to see what kind of information is passed on to consumers by retail employees.

Similar to the concerns raised in sections C and D above, the Commission should adopt and enforce rules that ensure consumers get the correct information concerning their future viewing options, the digital-to-analog converter box coupon program and DTV technology compatibility with existing technology including VCRs, DVRs, and DVDs. Consumers should always be made aware of their least expensive migration paths to DTV.

# F. DTV.GOV PARTNERS HAVE A SPECIAL RESPONSIBILITY TO EDUCATE DTV CONSUMERS

The Commission seeks comments on whether it should require its 50+ DTV.gov partners to report their specific outreach efforts. For the eight television station owners<sup>29</sup> in the partnership, their on air DTV education efforts should be reported as noted above in sections A and B. For the broadcast-related organizations that are not licensed for television broadcasting – ABCNews Now, American Public Television Stations, the Association for Maximum Service Television (MSTV), the National Association of broadcasters, and the Public Broadcasting Service – they should be asked to report what their on air efforts are or how they are encouraging their members to participate in on air efforts.

For all the groups in the partnership, the Commission should remind them, via Public Notice, that they have an important responsibility to ensure that consumers get the correct information concerning their future viewing options, the digital-to-analog converter box

<sup>29</sup> ABC, Capitol Broadcasting, CBS, Fox, NBC, Sinclair, Telemundo and Univision.

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coupon program and DTV technology compatibility with existing technology including VCRs, DVRs, and DVDs. Consumers should always be made aware of their least expensive migration paths to DTV.

The CAC also recommends that the Commission reach out and include consumer groups in the partnership.

But reporting of outreach efforts may not be sufficient. The Commission should encourage, if not require, that the partners coordinate their efforts with each other and with government outreach and education. All outreach and education should use standardized messages that are created with the help of the Commission. Coordination will help insure that the hard to reach are reached. Survey data should be used to target populations and identify in what languages outreach is needed.

Outreach efforts should not rely only on the Internet. While information provided on web sites and e-lists may be useful to some, other target populations as those consumers have limited access to the Internet. To reach all target population, any outreach plan must rely heavily on community based organizations (CBOs) that serve these consumers. CBOs will need materials provided for free, in bulk and in the different languages spoken in the communities they serve. The Commission should encourage and consider producing educational videos in American Sign Language. Training materials for CBO staff will be needed in addition to brochures for consumers. Such brochures must be available in accessible formats for individuals who are blind. In addition, the CAC notes that

extensive advertisements will need to be placed in the ethnic media at the national and local level.

## G. THE COMMISSION MUST DO EVERYTHING IN ITS CAPACITY

The Commission seeks comments on additional education proposals including broadcaster public file requirements, notice requirements by telecommunications carriers that receive funds under the Low Income Federal universal service program and 700 MHz auction winners. As noted by Chairman Martin, the Commission must do everything in its statutory and budgetary capacity to make sure that no American is left behind in the transition to DTV.<sup>30</sup> The NPRM invites comment on a number of creative consumer educational mechanisms to move DTV education forward and the Commission should consider all of them. Specifically:

- Broadcaster public file requirements: CAC recommends quarterly, electronic
  filing above and included in a public station's public file and on the station's web
  site, if it has one.
- Lifeline/Link-up Notices: CAC believes that there is great potential to reach a hard to reach at-risk community by encouraging notices from telecommunications carriers to their customers, especially their Lifeline and Linkup customers. In addition, the Commission should partner with the existing Federal programs to reach these households. The Commission has established as a baseline criteria for Lifeline/LinkUp eligibility participation in Medicaid, Food Stamps, Supplemental

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<sup>&</sup>lt;sup>30</sup> Martin Response at page 1.

Security Income (SSI), Federal Public Housing Assistance (Section 8), Low-Income Home Energy Assistance Program (LIHEAP), Temporary Assistance to Needy Families (TANF) or the National School Lunch Programs Free Lunch Program.<sup>31</sup> The Commission should work with these program administrators to distribute information about the DTV transition.

• 700 MHz auction winners: When 700MHz winners are determined, those entities will have a huge financial stake in analog TV spectrum being vacated for their use. The CAC recommends that, as part of the 700 MHz auction rules, the Commission require the winners to participate in the DTV education campaign and report on how they have aided the DTV education effort.

In addition, the Commission should consider other ways the Federal government can lead this effort:

- According to the Bureau of Labor Statistics, the federal government employs
  nearly 2 million civilians 5 out of every 6 work outside the Washington, DC
  area. The Commission should consider using the federal government, the nation's
  largest employer, to inform every federal employee about the transition perhaps
  through paycheck inserts. This program could be a model for voluntary programs
  by MVPDs, Lifeline/LinkUp providers and other billers noted in the NPRM.
  These employees could then share news of the transition to friends and family via
  word of mouth.
- The Commission should seek additional Federal partners that have local contact

<sup>&</sup>lt;sup>31</sup> See Commission's Lifeline Link Up Consumer Page (http://www.lifeline.gov/lifeline\_Consumers.html).

- points with citizens such as the United States Post Office and the Social Security Administration.
- The Commission should consider producing, and working with industry partners to distribute to stations and MVPDs, its own American Sign Language and, captioned PSAs. Information presented visually in text should be conveyed audibly. In addition, the Commission should post these PSAs on Internet video sharing sites such as YouTube. The Commission should request money from Congress for a paid-for PSA campaign. Such payments are often needed for airing of PSAs in the ethnic media.
- The Commission should encourage every government web site including those
   of members of Congress to link to DTV education websites.
- FCC commissioners and staff should make as many public appearances, including media appearances such as daytime talk shows, as practical to discuss the DTV transition.
- The Commission should make frequent reports to Congress on the progress of the campaign and make these reports easily available to the public.
- H. THE COMMISSION SHOULD ENSURE COORDINATED EFFORTS TO RESOLVE TECHNICAL PROBLEMS ASSOCIATED WITH CLOSED CAPTIONING SO THAT CONSUMERS WITH HEARING LOSS ARE NOT HARMED BY THE DTV TRANSITION

In order to ensure that consumers with disabilities are not harmed by the transition,

efforts at trouble-shooting the various causes associated with captioning problems needs to occur. To this end, the Commission should convene a working group that includes representatives from the broadcasting, cable, and satellite industries, television and set top box equipment manufacturers, MVPDs, captioning providers, electronic retailers and captioning consumers. Such a group, which should include top engineering personnel from the relevant industries and the Commission, should be tasked with 1) identifying current and anticipated problems with the transmission and display of captions over digital programming, 2) evaluating and assessing their components, systems, and set top boxes for compatibility with captioning services, 3) developing solutions to existing and potential problems in order to ensure the capability to pass through closed captions intact to the consumer. Captions provide the only means of access to television programming for people with hearing loss; even the most comprehensive efforts to educate this population about the digital transition will be meaningless if, when the transition takes place, this public cannot access the captions that are available by the FCC's rules.

IV. **CONCLUSION** 

For the DTV transition to work, the Commission needs the cooperation of broadcasters,

MVPDs, consumer electronics manufacturers, consumer electronics retailers, and, most

importantly, consumers. Unfortunately, this most important link in the broadcast

television chain is unaware of its responsibilities.

The Commission has a Herculean task and scant resources afforded it. In just over 500

days, millions of US households must be made aware of the transition and convinced to

buy a DTV set, subscribe to a pay TV service, and/or buy and install a digital-to-analog

converter box – or lose their broadcast TV service. As the agency leading this transition,

the Commission, too, must lead the education effort. Therefore, the CAC strongly urges

the Commission to focus its efforts on the consumers most likely to be left behind in the

transition. The Commission must use all the tools – mainly its rules – to ensure that the

digital TV education campaign reaches consumers, that consumers are not harmed by the

transition, and that consumers are empowered to act in their own best interests.

Respectfully submitted,

Federal Communication Commission's

Consumer Advisory Committee

By: /s/ Debra Berlyn, Chair

October 1, 2007

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# **Appendix A**

# **Data on DTV Technology Penetration**

# 2006 Digital Television Summary Statistics



# Methodology

The report described herein was designed and formulated by the Consumer Electronics Association (CEA). The data contained in this report represents a wide variety of studies stretching back to September 1999. Each study was conducted by telephone with a minimum of 1000 randomly selected US adults.

The margin of sampling error for aggregate results is  $\pm$  3.1%. Sampling error is larger for subgroups of the data. As with any survey, sampling error is only one source of possible error.

As is common practice in survey research, the data was weighted to reflect the known demographics of the population under study. In this survey, weights were applied to cases based on gender, age, race and geographic region. As a result, this data can be generalized to the entire U.S. adult population.

CEA designed these studies in their entirety and is responsible for all content contained in this report. During the fielding of this study, CEA employed the services of MarketFacts (Sept. 1999 – March 2000) and Opinion Research Corporation (April 2000 to present) to conduct telephone interviewing. The telephone interviewing employed industry standard random-digit dialing and computer assisted telephone interviewing (CATI). Any questions regarding the study should be directed to CEA Market Research staff at research@CE.org.

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## **Last Updated 7/19/2007**

# I. Introductory Display Statistics

- Unit sales of analog television have ended as of March 1, 2007 while unit sales of digital television displays are expected to continue their increase through 2010.
- Due to the transition from analog to digital television, wholesale revenue from all displays is expected to peak in 2008. Likewise, digital television display revenues are expected to peak in 2008, with declines expected to follow thereafter.
- Despite increasing unit sales of displays through 2010, wholesale revenues are expected to decline after 2008 due to the fast-falling average wholesale price per display.

#### **Unit Sales of Televisions (millions)**

	2002	2003	2004	2005	2006	2007e	2008p	2009p	2010p
									_
Analog TVs	28.245	25.640	23.824	20.427	10.789	1.349	0	0	0
Digital TVs	4.145	5.532	8.002	11.369	23.504	30.462	33.638	36.084	37.377
TOTAL TVs	32.390	31.172	31.826	31.796	34.293	31.811	33.638	36.084	37.377

## Wholesale Revenue Sales of Televisions (billions)

	2002	2003	2004	2005	2006	2007e	2008p	2009p	2010p
Analog TVs	7.260	5.836	4.483	3.459	1.340	0.141	0	0	0
Digital TVs	6.383	8.692	12.300	15.563	23.380	25.908	26.595	26.517	25.180
TOTAL TVs	13.643	14.528	16.783	19.022	24.720	26.049	26.595	26.517	25.180

#### Ownership Rates of Televisions among all US Households\*

	2002	2003	2004	2005	2006	2007	2008p
	%	%	%	%	%	%	%
Analog TVs	98	98	98	98	98	98	98
Digital TVs	2	4	8	12	20	33	53

<sup>\*</sup> As of January of each year

#### **Television reception:**

- 11% of all US households receive their television signals **ONLY via over the air reception**.
- 18% of all US households have at least one television that receives signals via over the air recention
- 58% of all US households have at least one television that receives signals from a cable provider.
- 26% of all US households have at least one television that receives signals from a **satellite provider**.

e – estimated, p - projected

# II. Demographic Differences Between OTA, Cable, and Satellite Households

The chart in the Appendix shows the demographic profiles of the entire US population and comparisons between Over the Air Only (OTA) households (meaning none of the televisions in the home is connected to a cable or satellite provider), Cable households (at least one TV in the home receives cable television programming), and Satellite households (at least one TV in the home receives cable television programming).

#### OTA households are...

- Less likely to be employed full-time
- More likely to be white, and less likely to be black
- More likely to have incomes under \$40K
- More likely to be separated / divorced / widowed
- More likely to live in a rural area compared to cable households
- Less likely to live in rural areas compared to satellite households
- Less likely to live in the Northeast compared to cable households
- More likely to live in the Midwest
- Less likely to live in the South
- Less likely to live in the West compared to satellite households

## III. Televisions in US Homes

- The average number of televisions in US households has not significantly changed over the past 6 years.
- OTA Only households have significantly fewer sets, on average, when compared to Cable and Satellite households.

#### TVs Per Household

	March 2000*	May 2005**	August 2006**	OTA Only Households	Cable Households	Satellite Households
Average number of TVs per household	2.5	2.6	2.4	2.0	2.7	2.9

<sup>\*</sup> Used at least once in the past 12 months

<sup>\*\*</sup> Used at least once in the past 3 months

# IV. Awareness of and Familiarity with HDTV

- Awareness of all terms has increased since 1999, however the levels have remained constant from early 2005 to the present.
- Familiarity with the details of HDTV has also remained unchanged since 2005.
- Awareness of terms and familiarity with the details of HDTV differs very little by type of television reception.

## **Awareness of Terms\***

	Sept. 1999	July 2001	Sept. 2003	March 2005	May 2005	August 2006
	%	%	%	%	%	%
High-definition TV	55	62	73	84	84	83
Digital TV	76	79	82	87	85	82
HDTV	36	45	61	77	76	78
Analog TV	NA	41	53	NA	NA	57

<sup>\*</sup>Yes/maybe summary

#### Awareness of Terms (con't)\*

	August 2006	OTA Only Households	Cable Households	Satellite Households
	%	%	%	%
High-definition TV	83	85	85	84
Digital TV	82	88	84	82
HDTV	78	76	78	80
Analog TV	57	60	57	56

<sup>\*</sup>Yes/maybe summary

# Familiarity with Details about HDTVs\*

	May 2005	August 2006	OTA Only Households	Cable Households	Satellite Households
"Very Familiar" + "Familiar"	50%	52%	48%	51%	52%

<sup>\*</sup>Have at least one TV in household that has been used in the past 3 months

# V. Buying the Next Household TV

- The percentage of households expecting to buy a TV within a 12 month period is a fairly stable number as the market is nearly all replacement. Thus, in May 2005 one-fifth of consumers expected to buy a TV in the following 12 months.
- Significantly fewer OTA households expected to buy a new TV in the 12 to 24 month time period following the May 2005 survey.
- The percentage of households that expect their next TV to be an HDTV has risen steadily over the past years, and as of May 2005 stood at 61%. OTA and Cable households have similar intentions, however, Satellite households are significantly more likely to make their next TV an HDTV.

**Timing of Next TV Purchase** 

, and the second	May 2005	OTA Only Households	Cable Households	Satellite Households
	%	%	%	%
Within 1 year	20	11	22	18
Within 2 years	15	11	15	17
Within 3 years	9	10	9	10
More than 3 years	42	52	39	45
Don't know	14	16	15	10

Likelihood of Next TV Being an HDTV

, and the second	Sept. 2003	May 2005	OTA Only Households	Cable Households	Satellite Households
	%	%	%	%	%
All TV households	30	61	58	59	69

<sup>\*</sup> Definitely/probably summary

# Appendix: Demographic Profile of Over the Air (OTA) Households

Demographic Profile of Households by Television Reception\*

	US	OTA Only	Cable	Satellite
Segment	Population	Households	Households	Households
	<b>'05/'06</b>	<b>'05/'06</b>	<b>'05/'06</b>	<b>'05/'06</b>
(Unweighted sample size)	(N=2009)	(N=223)	(N=1210)	(N=536)
Gender	%	%	%	%
Male	48	46	48	50
Female	52	54	52	50
Age			02	
18-24	13	13	13	15
25-34	18	16	17	18
35-44	20	20	20	20
45-54	19	23	18	18
55-64	13	9	13	13
65 and over	16	17	16	12
Employment				
Full-time	48	42	49	52
Part-time	11	14	11	10
Retired	21	22	21	19
Not employed	18	21	18	17
Education		_	_	1.0
Less than high school	8	9	7	10
High school grad	31	30	31	31
Some college, no degree	20	18	19 26	20
College degree (2 or 4 year)	26 12	28 10	26 14	26 8
Post graduate degree  Race / Ethnicity	12	10	14	0
White	74	80	72	70
Black	12	7	14	13
Asian	2	0	2	2
Other	11	9	11	14
Hispanic household	12	9	13	14
Income	12		15	1.
Less than \$40,000	35	47	32	32
\$40,000 or more	49	39	51	56
Marital Status				
Married / Living as married	52	45	50	59
Single, never married	26	26	28	25
Separated / Divorced / Widowed	19	25	20	13
Dwelling				
Own	68	68	66	74
Rent	30	30	31	23
Children In Household	26	2.4	26	20
Yes	36	34	36	39
No Location	64	66	64	61
Location Urban	74	71	80	64
Rural	26	71 29	20	36
Region	20	29	20	30
Northeast	19	16	23	13
INOTHICAST	1 17	10		13

Midwest	23	33	20	21
South	36	31	37	40
West	22	20	20	26

<sup>\*</sup> Refused/ Don't Know responses not shown. Due to rounding, not all totals equal 100%.

Source: CEA Market Research, May 2005 and August 2006